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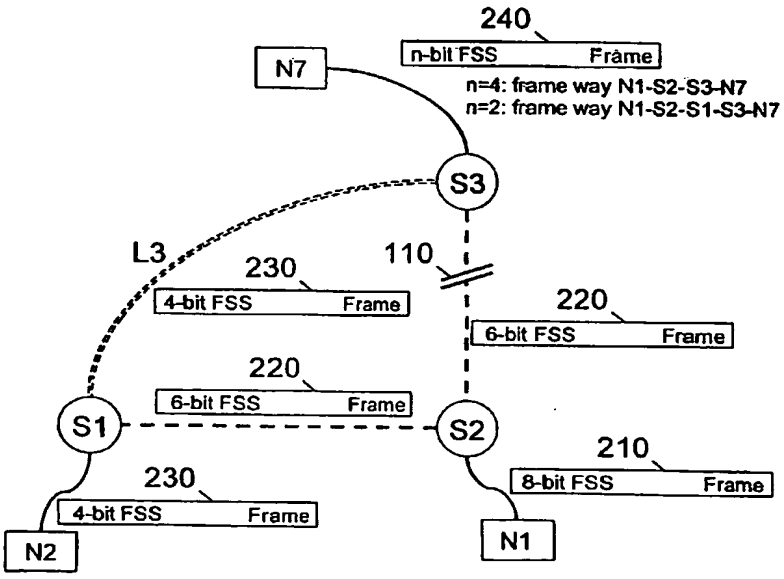
(54) Title: SELF-ROUTING, STAFF-COUPLER-BASED COMMUNICATION NETWORK




(57) Abstract: A self-routing communication network (100) having: a plurality of nodes (N1-N15); a plurality of star couplers (S1-S4) each having a plurality of inputs and a plurality of outputs; and communication paths coupled between the plurality of star couplers and the plurality of nodes for communicaton therebetween of frames of information, including at least one redundant communication path (L1-L3), and each of the star couplers sensing which of its inputs first receives a frame and passing only the frame first received. The frames each have a fram-start-sequence (FSS), and the star couplers change the fram-start-sequences before outputting the frame of information e.g. by reducing the size of a frame's fram-start-sequence by a predetermined amount (e.g., 2 bits), whereby interconnection failure may be diagnosed by analysing the frame-start-sequence.

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